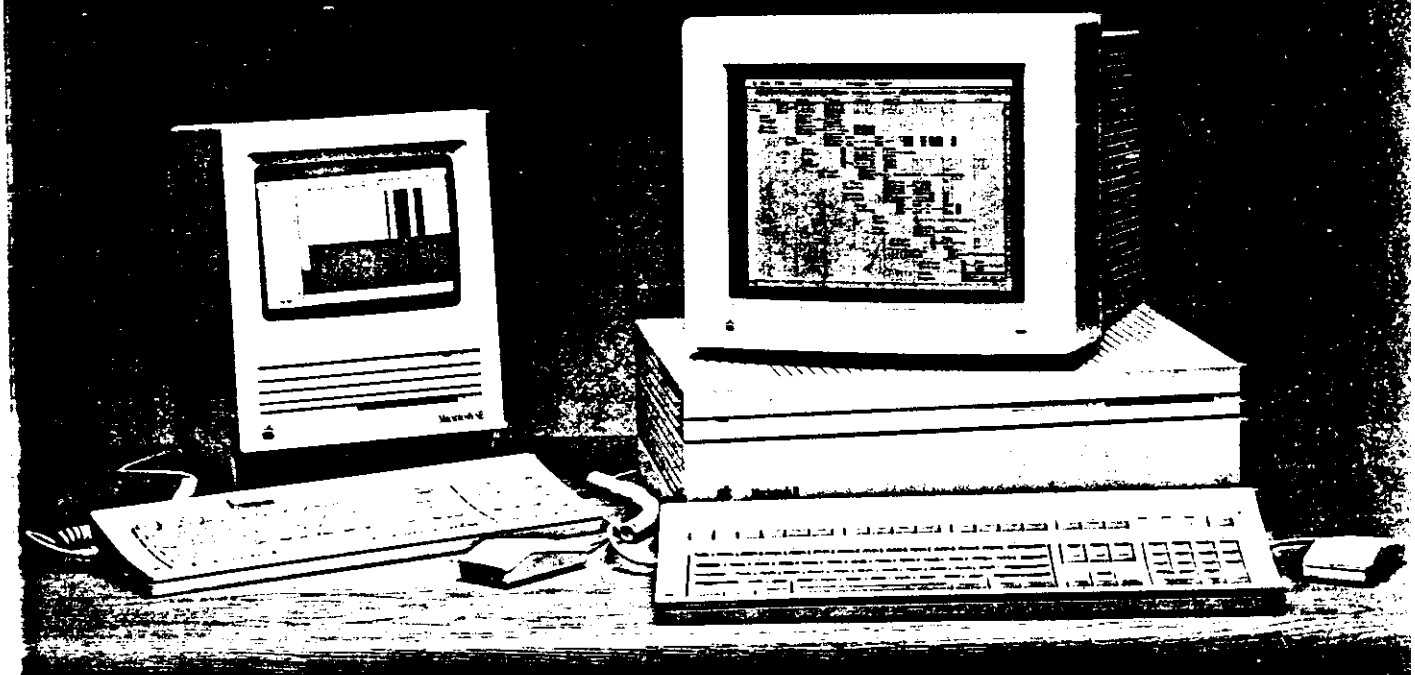
Introducing Project Management for the Macintosh™



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Introduction

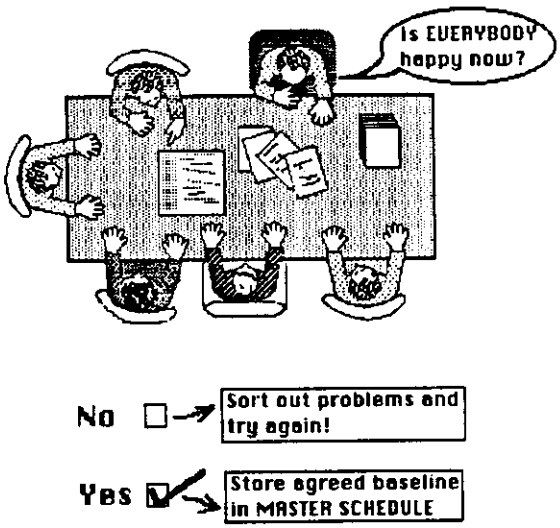
Why manage a project at all?

Projects do not look after themselves. Good planning and skilful management are required to ensure that all the operations run smoothly and that the project finishes on time and within budget.

How can Micro Planner help?

The Micro Planner program is concerned with the organization and control of any project, however complex. It can help in two ways:-

❒ Planning - Create a project model which you can use to forecast and, therefore, overcome any problems *before* the real project starts. Use simulations to produce the most streamlined sequence of operations while making the best use of the available resources.



❒ Managing - Micro Planner's function does not stop at the planning stage. Use Micro Planner to steer the project through the 'minefields' of unavoidable changes and delays towards its successful conclusion.

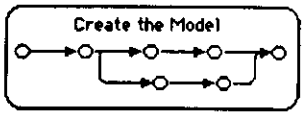
The best way to discover what Micro Planner has to offer is, of course, to try it yourself.

About the tutorial

This booklet contains all the information you need to produce a small project.

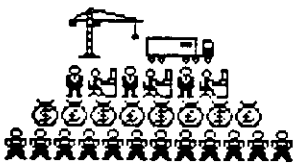
It is designed to introduce you, step by step, to the following basic features of Micro Planner...

❒ Build the model - Direct input of project information into the *Macintosh.*



❒ Time Analysis - Identify the Critical Path so you know which operations control the completion date.

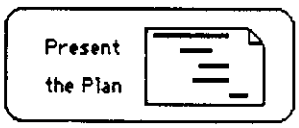
❒ Resources - Enter the available resources and assign them to relevant operations.



❒ Resource Analysis - Ensure that the resources are used efficiently and intelligently. Anticipate and resolve any conflicting resource demands.

❒ Screen Displays - Rapid presentation of the project information in clear and comprehensible formats - barcharts, histograms, network diagrams.

❒ Printed Reports - Communicate the data to others in the team. Customize and tailor reports using activity labels.



The example project may not present the most fiendish challenge to the world of project management but it does provide a quick guided tour around the program. It does not cover the more complex features that Micro Planner has to offer.

Now you are ready to start...

Getting Started

You need a *Macintosh* with at least 512K of memory and an external disk drive or a hard disk drive. You will also need an Imagewriter Printer or a Laserwriter. Link them together as described in your hardware user guides.

The first thing to do is to open Micro Planner from the Finder.

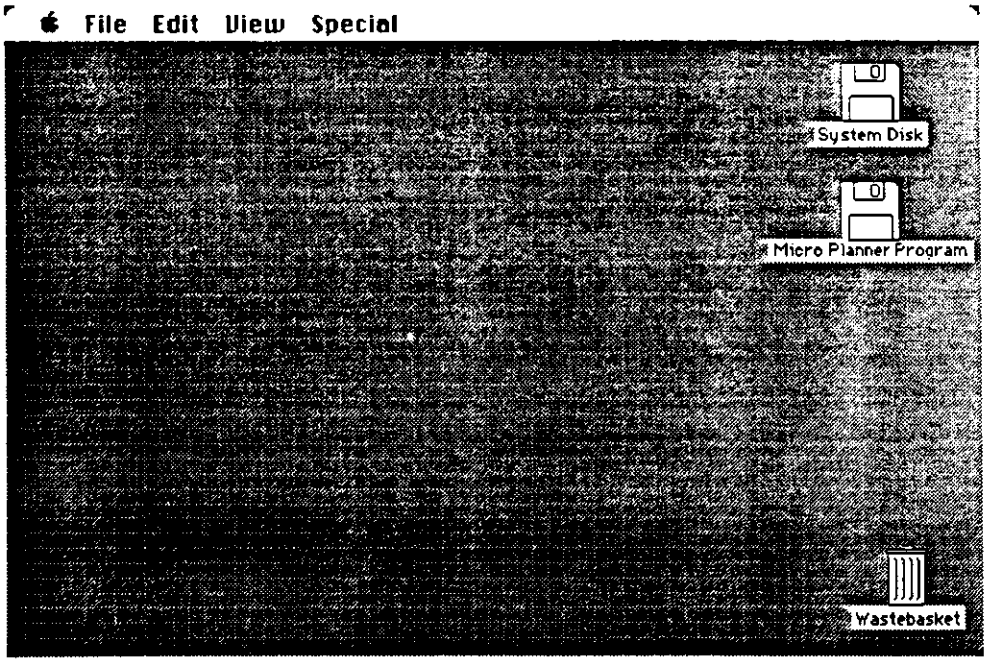
Either, for a hard disk system:

- **Power up the Macintosh and, if appropriate, the hard disk.**
- **Insert the Micro Planner Program disk or Sampler disk, metal end first, into the floppy disk drive.**

Or, for an external disk drive:

- **Power up the Macintosh and insert a system disk, metal end first, into one of the disk drives (usually the internal drive).**
- **Insert the Micro Planner Program disk or Sampler disk into the other.**

The menu bar and the appropriate disk icons appear on the screen similar to this:



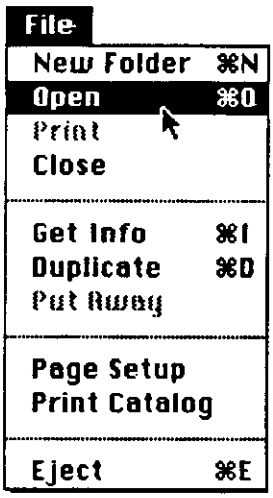
Whether you are using a hard disk or an external disk drive system, the next step is to select and open the Micro Planner disk.

There are two ways of doing this...

Either,

■ **Select the Micro Planner disk icon.**

This means: Position the pointer on the program disk icon then press the mouse button and release it. The icon turns black when it is selected.



■ **Choose OPEN from the File menu.**

To do this: Position the mouse pointer over the File item on the menu bar at the top of the screen and press the mouse button. Notice that a 'pull down menu' appears. Keeping the button pressed, drag the pointer downwards. Release the mouse button when the Open command turns black.

Or, taking the short cut,

■ **Double click the Micro Planner disk icon to open it.**

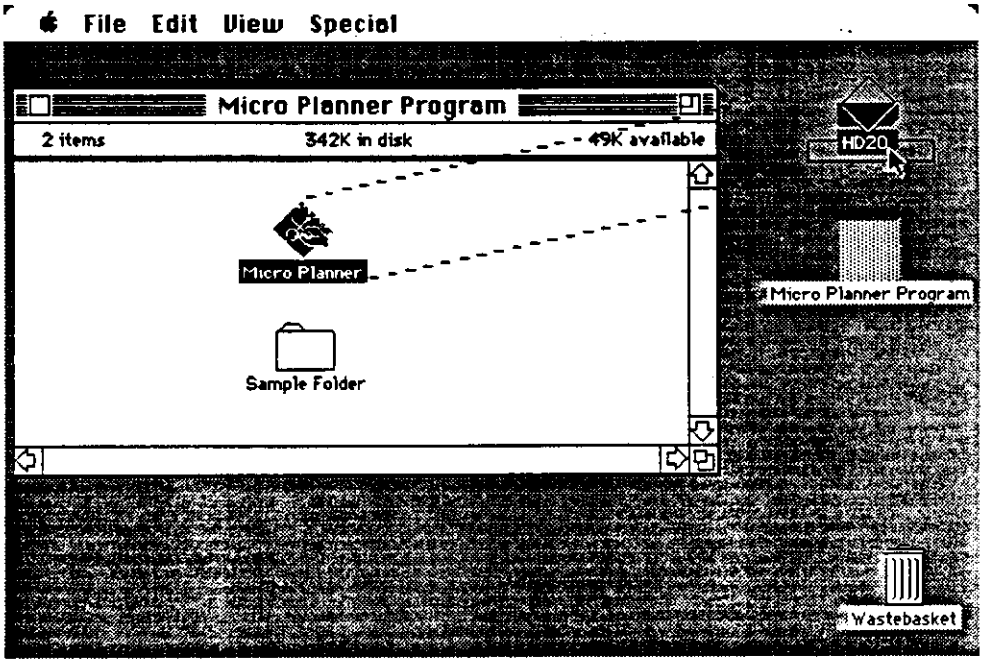
To do this: Position the mouse pointer over the program disk icon and click twice in short succession on the mouse button.

The disk window opens to reveal an icon representing the Micro Planner program. On a color system, this icon is red.

Micro Planner

For HARD DISK systems only:

To install Micro Planner, copy the program onto the hard disk as follows:



■ **Drag the Micro Planner program icon onto the hard disk.**

To do this: Select the Micro Planner program icon and, keeping the mouse button pressed, drag its outline to the hard disk icon. Release the mouse button when the hard disk icon turns black.

Once the copying message disappears, you may safely remove the original program disk like this:

■ **Click the 'close' box in the top left corner of the program disk window.**

■ **Choose Eject from the File menu.**

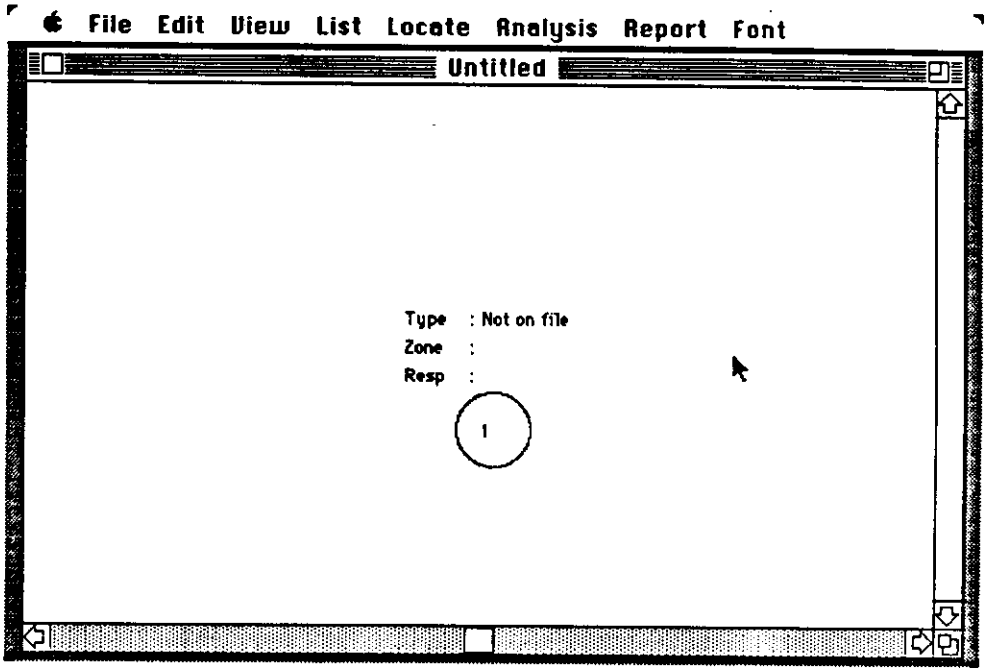
The disk is ejected and may be kept in a safe place.

■ **Open the hard disk by double clicking its icon.**

Now, for both HARD DISK and EXTERNAL DISK DRIVE systems:

■ **Double click the Micro Planner program icon to open it.**

Once the desktop clears, the Micro Planner title screen is briefly displayed before this screen appears....



The network screen has a title bar, close box, size box, zoom box and scroll bars which are explained in your *Macintosh* owners guide. The project name is preset to 'Untitled'.

Setting The Scene

Assume that you are working for a manufacturing company.

A prototype has been perfected and when the new product rolls off the production line it is going to take the market by storm...

...provided, of course, there is a) a product and b) a market not adverse to the odd storm.

As the project manager, how do *you* ensure a successful product launch?

The first step, perhaps, is to draw up a list of the operations involved.

The next step is to feed this information into the *Macintosh*.

Operations	Estimated no. of working days
(1) Market survey	12
(2) Survey analysis	10
(3) Make product	28
(4) Product launch	10

Creating the Model

When you start building the model, remember that the computer also needs to understand your project. This means considering not only the component operations in the project but the way in which these operations are linked together (or the 'logic').

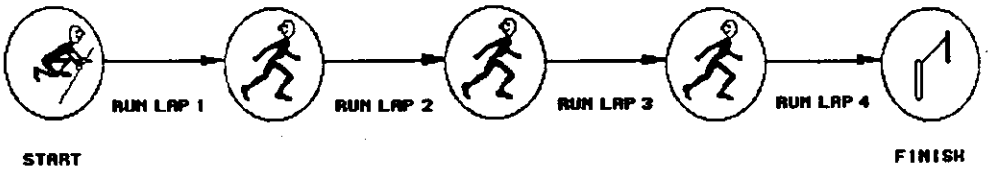
In Micro Planner, each operation in a project is represented as an arrow between two circles.

The arrow represents the actual operation or **activity** - activities take time to complete and may employ resources (people, equipment, materials, money).

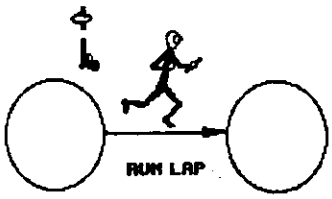
The two circles depicting the start and finish of the activity are called **events**.

Events are best described as 'points in time'. Unlike activities, they do not represent any action nor utilize any time or resources. The majority of events are taken for granted in Micro Planner - they merely form the junctions between activities.

A simple analogy, perhaps, is a relay race:



The start line, baton changes and finish line are the 'events'...



... and the actual laps run are the 'activities'.

Your computer may be less well acquainted with the world of athletics, therefore, the logic of the model must tell *it* where the race starts, how many 'laps' are required and in which order, and where to finish.

Your First Event

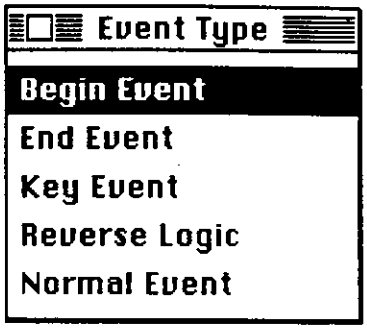
Having said that most events are taken for granted, there are several different types of special event which do merit more attention. For now, we will consider just one - a **Begin** Event. Every project must start somewhere and this is it.

Let us assume that event number 1 (in the middle of the screen) is going to mark the starting point of our project.

■ **Double click on the event to open it.**

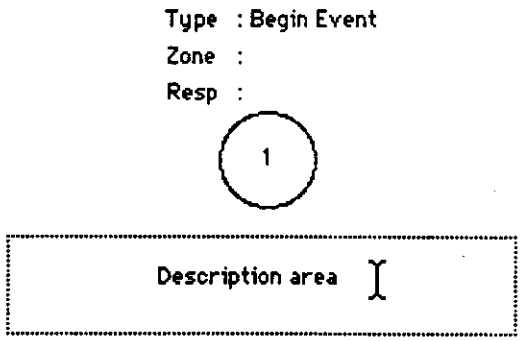
To do this: Position the mouse pointer on the event and click the mouse button twice in quick succession.

A menu window appears showing the selection of event types available.



■ **Choose Begin Event from the menu window by clicking on it.**

There is no need to give an event a description but let's do it anyway.



■ **Click in the description area below the circle.**

To do this: Move the mouse pointer to the area below the circle and press the mouse button when the pointer changes into an 'I-beam'.

■ **Type a description - say 'Start of project'.**

Now all you need to do is accept the event.

■ **Click the OK button.**

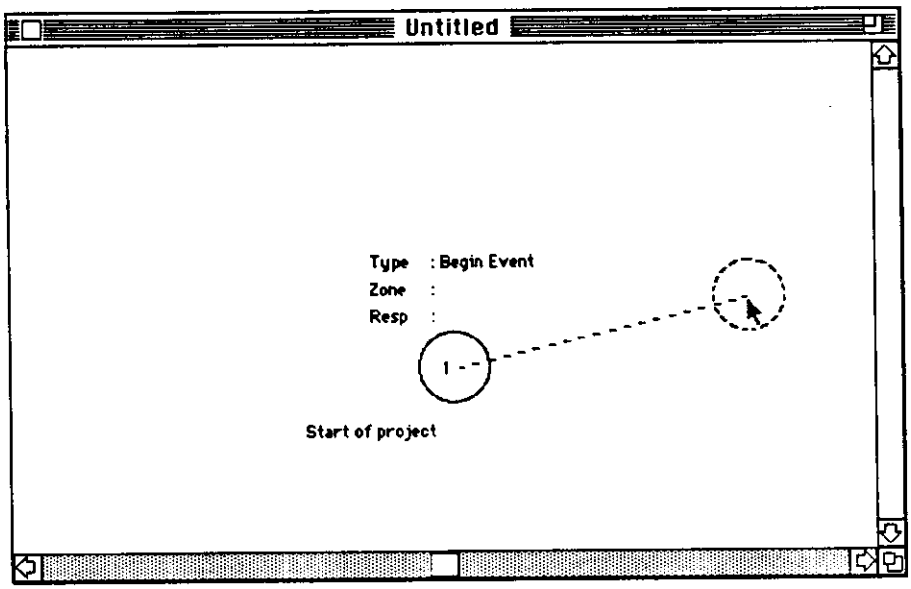
Your First Activity

Activities are the life blood of your project model. As previously explained, an activity in Micro Planner looks like an arrow which starts at its tail and completes at its head.

Create an activity starting at event number 1.

■ **Click inside the event, drag towards the right of the window and release.**

To do this: Position the mouse pointer inside the circle and, while pressing the mouse button, move the pointer with the attached ghost event towards the right. Now, release the button to create an activity.



> **Note:** You drag to the right to create an activity which follows the event. If you had wanted an activity coming *into* the event (or preceding it) then you would have dragged it to the left.

The activity appears in a new window titled 'Add Activity'. It starts at event number 1 (as expected) and Micro Planner assigns the *next unallocated event number* to the right hand circle. In this case, it is 2.

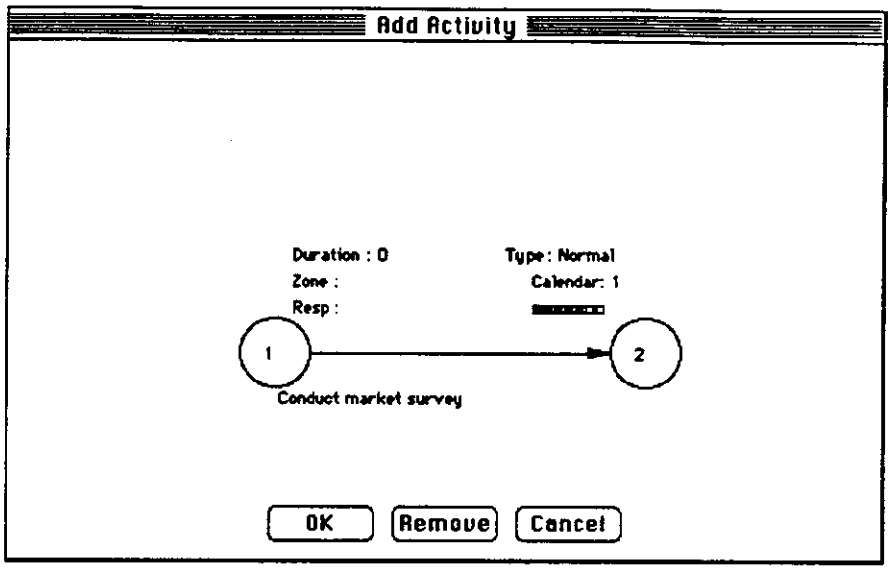
Description

Each activity must have a description to define the intended operation.

■ **Click the description area below the arrow.**

Do this in the same way as for an event - when the I-beam appears.

■ **Type the description 'Conduct market survey'.**



Duration

This activity is expected to take 2 weeks and 2 days. Enter its duration like this:

■ **Move the mouse pointer to the right of Duration: and, when the I-beam appears...**

Duration : 0

■ **... double click to select the existing duration, in this case, of '0'.**

■ **Type the duration in the form: 2,2**

Note: The comma marks the division between weeks and days.

If you want to express a duration in days then type only the comma followed by the number of days. Therefore ,4 means 4 days.

To the right of the Duration: area, notice the Calendar number and the row of seven squares beneath it. The first five black squares represent working days and the two white squares represent non-working days.

Type : Normal
Calendar: 1

This means that the activity will take 2 weeks and 2 days of a standard five day week. For the moment, there is no need to change this so let's accept the activity:

■ **Click the OK button.**

More Activities

The activity 'Analysis of Survey' comes after 'Conduct market survey' and, therefore, follows event 2.

■ **Click inside event 2, drag to the right and release the mouse button.**

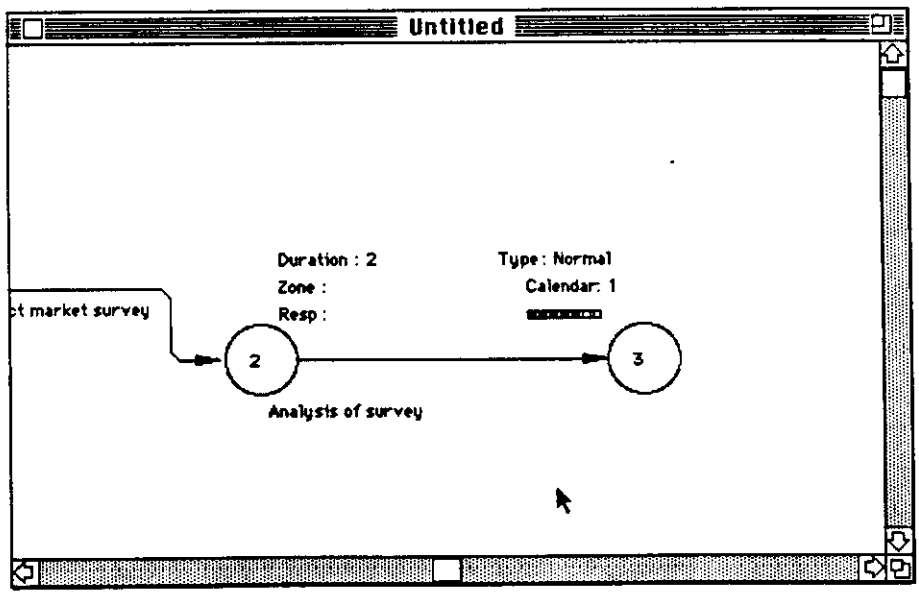
The new activity appears. It starts at event 2 - and it finishes at event 3 which is the next unused event number invented on your behalf.

> **Note:** There was no need to enter event 2 as the starting point for the new activity - it has been assumed from the combined action of clicking inside that event and dragging to the right.

■ **Enter the activity description 'Analysis of survey'.**

■ **Enter a duration of 2 and click OK.**

The duration 2 (on its own) means 2 *weeks*. It is not necessary to add the following comma or zero.



The third operation 'Manufacture new product' with a duration of 5,3 follows the survey analysis (after event 3).

■ **Click inside event 3 and insert activity 3→4 with the description 'Manufacture new product' and duration 5,3.**

■ **Click OK.**

Once the product is manufactured, it can be launched.

■ **Click inside event 4 and insert activity 4→5 'Launch new product' with duration 2.**

Preceding Activities

Having entered all the activities, you realize that the product launch could be a waste of time unless it is advertised. So you need another activity 'Prepare advertising campaign' coming into event number 4.

■ **Click inside event 4, drag to the LEFT and release the mouse button.**

A new activity appears with 4 in the right hand event and the next unused event number in the left (preceding) event.

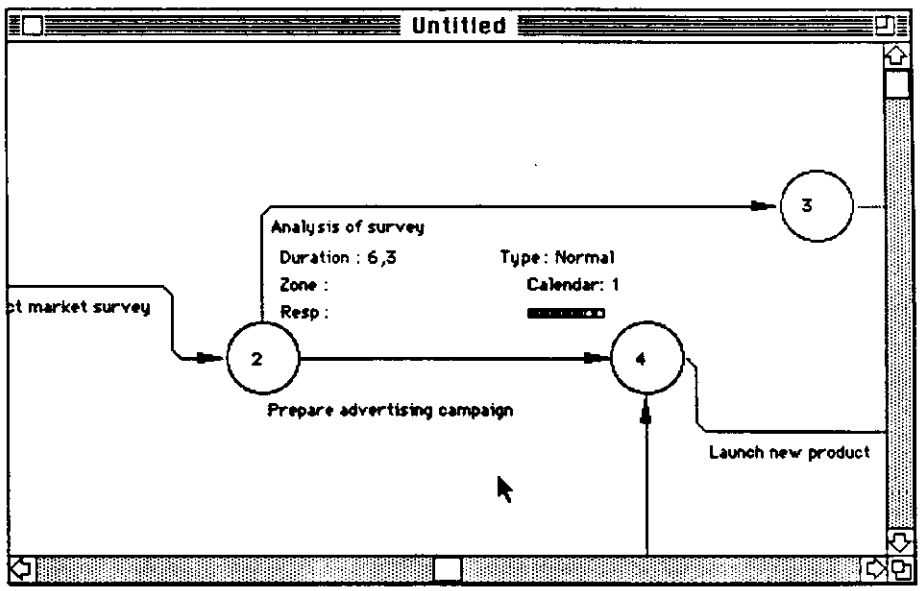
Assume that you can start the advertising campaign immediately after conducting the market survey - that is after event 2.

Event number 6 in the left hand circle is already highlighted so...

■ **Type 2.**

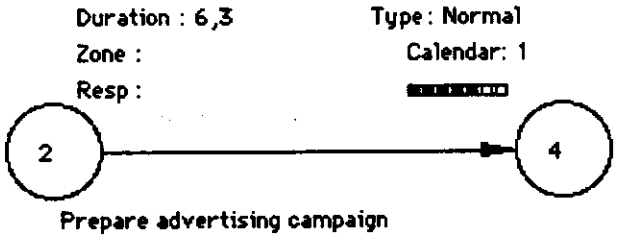
■ **Enter the description 'Prepare advertising campaign' and a duration of 6,3, then click OK.**

Your screen should now look like this...



Viewing the Network

At first glance, the way in which the activities are arranged on the screen may seem a little strange.



Instead of displaying the actual *position* of the activities in the network, the screen shows the *logic* of just one activity at a time. In this case, activity 2→4 is the focus of attention surrounded by all of the activities associated with it.

To see more of the activities preceding or following 2→4, use either the arrows or the 'thumb' on the horizontal scroll bar.

Use the vertical scroll facilities to see more of the activity that comes up into event 4.

Another unusual feature is that the scroll facilities have a localized effect - you can use the scroll bars to move the window around the centralized activity but not to another part of the network. This does not mean that you have to look at activity 2→4 forever!

To move around the model, click on an activity which is in the direction you wish to go. Each time an activity is clicked, it gathers all its associated logic around it. This is called panning - try it:

■ **Click on activities 1→2, 2→3, 3→4 and 4→5.**

Notice how the pattern changes as you proceed through the network.

The screen layout and the method of panning may take a little getting used to but it can be of great benefit as the complexity of the network increases. Why scroll frantically in all directions trying to trace one activity through others which cross and re-cross when a single click will reveal all the information required?

In Micro Planner, you can also use event names (or numbers) and activity descriptions to move to a specific part of the network.

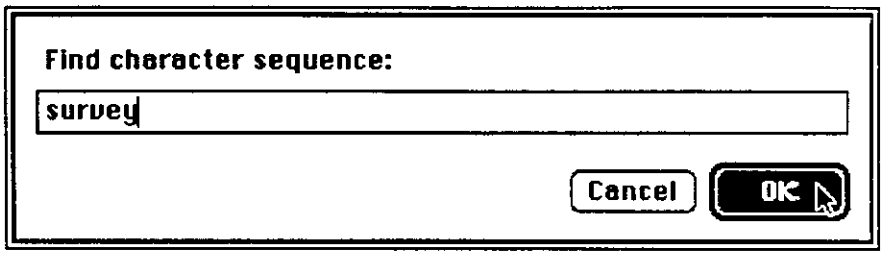
Searching

Suppose that you want to locate the activity 'Conduct market survey'. You cannot remember the event numbers associated with it but you know that the word 'survey' appears somewhere in the description.

Micro Planner helps you to locate a record by finding a string of characters in the description - any string, part words or whole words, capital letters or lower case letters. Let's try:

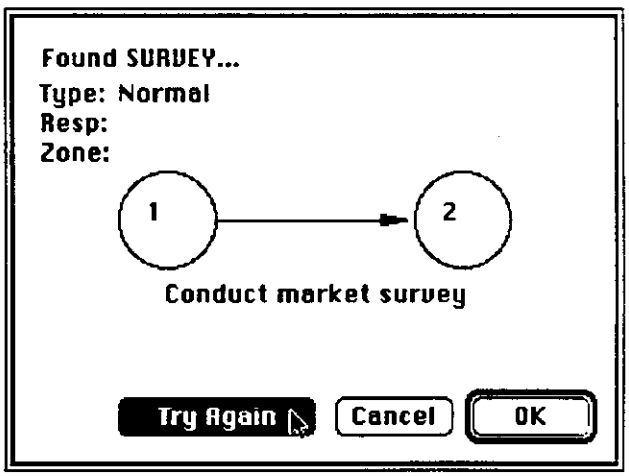
■ **Choose Search from the Locate menu.**

This box appears:



■ **Type 'survey' in the space provided and click the OK button.**

Micro Planner finds the first record containing 'survey' in the description and displays it like this:



■ **Click the Try Again button.**

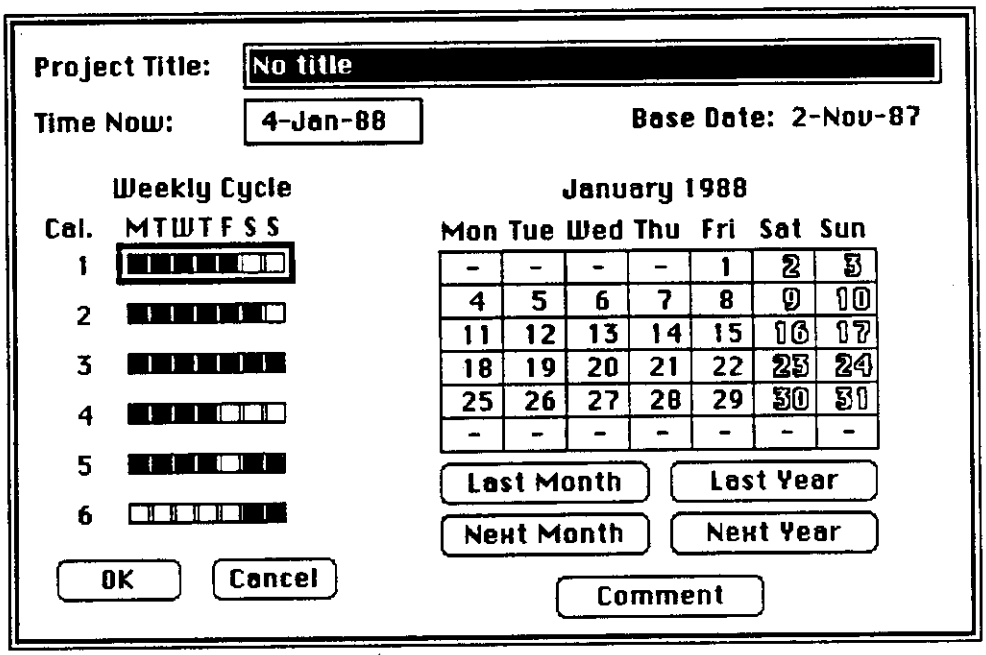
Another record appears.

■ **Click the Cancel button to return to the model.**

Project Details

You are ready to analyze the model but, first, you need to enter the date from which these analyses can start - this date is called 'Time Now'.

■ **Choose Project Details from the View menu.**



Use this screen to enter 'Time Now' and other information, for example, the project title:

■ **Type 'My first project'.**

This title will appear on all printed reports for this project.

The 'Time Now' box displays today's date. This is set from your *Macintosh* Control Panel.

You want the project (and the first analyses) to start next Monday so...

Time Now: 4-Jan-88

■ **Double click the 'Time Now' box.**

■ **Type next Monday's date as the DAY (numbers), MONTH (first three letters) and YEAR (numbers).**

For example, a start date of 11th January 1988 may be entered as:

Time Now: 11jan88

Calendars

Notice the 'Weekly Cycle' area of the screen. The rows numbered 1 to 6 are weekly work cycles - the black squares represent working days and the white squares are non-working days.

The program preselects Calendar 1, in this case, the normal five day week with the rectangle surrounding it.

This five day work cycle is reflected by the monthly calendar on the right of the screen which displays the working dates as black numbers and the non-working dates as 'outlined' numbers.

These weekly cycles can be customized to your own requirements. For example, if the project needs a work schedule of five working days from Friday to Tuesday inclusive you can adapt an existing weekly cycle like this...

■ **Click the fifth row of squares to select Calendar 5.**

■ **Click the black squares for Wednesday and Thursday.**

The two squares turn white and the dates for Wednesday and Thursday on the monthly calendar change accordingly to 'outlined' numbers.

Similarly, reverse Friday from a non-working day to a working day:

■ **Click the white square for Friday.**

On returning to the network model, you can assign this new work cycle to an activity by changing its Calendar from number 1 to number 5.

You can also customize the monthly calendar to include holidays:

■ **Move the mouse pointer to the monthly calendar and click any number which is black.**

The date switches from a working day to a non-working day.

If you want to specify an extra working day...

■ **Click any 'outlined' date to change it to a working day.**

For the moment, however, re-select the standard five day week...

■ **In the Weekly Cycle area, click Calendar 1 to re-select it.**

■ **Click the OK button to return to the model.**

Time Analysis

Now that you have entered the starting date ('Time Now') and assigned a duration to each activity, Micro Planner has the necessary information to calculate when each activity can start and finish.

This process is called Time Analysis and it does three things:

1) It calculates the *earliest* date that each activity can start and finish.

2) It then calculates backwards from the end event to give the *latest* dates that each activity can start and finish without delaying the completion of the project.

These two steps identify the longest chain(s) of activities through the network known as the **Critical Path**. These are the activities which control the project completion date - if any of them are delayed, even by one day, then the whole project is delayed.

3) Finally, it checks your project for 'logic errors' such as unconnected activities.

■ **Choose Time Analysis from the Analysis menu.**

The analysis starts and some displays appear.

Oops! An error message appears.

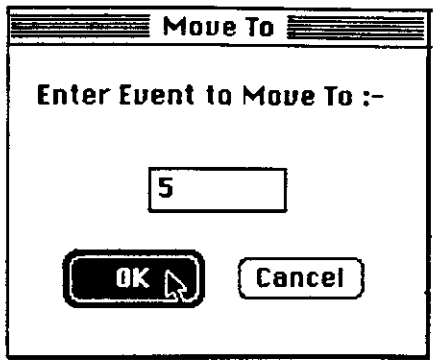
A finish dangle is an un-intentional loose end or, using the relay race analogy, there is no finish line! So, just as you told Micro Planner where the project began, you must identify where it ends:

■ **Click OK to acknowledge the dangle.**

A second message appears on the screen.

■ **Click OK to return to the network model.**

Move directly to event 5 like this:



■ **Select Move to from the Locate menu.**

■ **Type 5.**

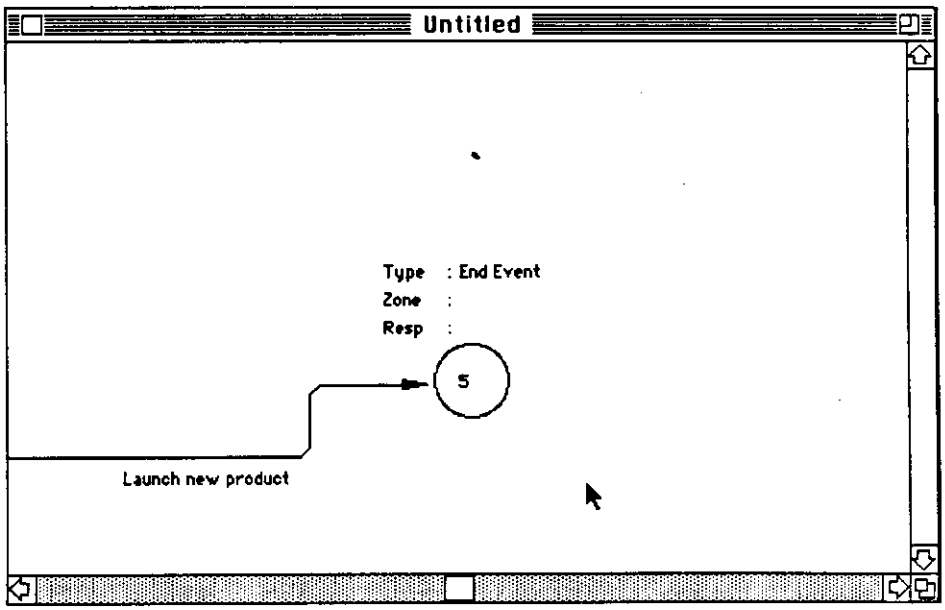
■ **Press the Return key or click OK.**

Event 5 appears in the middle of the screen - there is no activity following it.

■ **Double click on event 5 to open it.**

■ **Choose End Event from the Event Type menu.**

■ **Click the OK button.**



Now try Time Analysis again.

■ **Choose Time Analysis from the Analysis menu.**

This time it works and the analysis terminates with

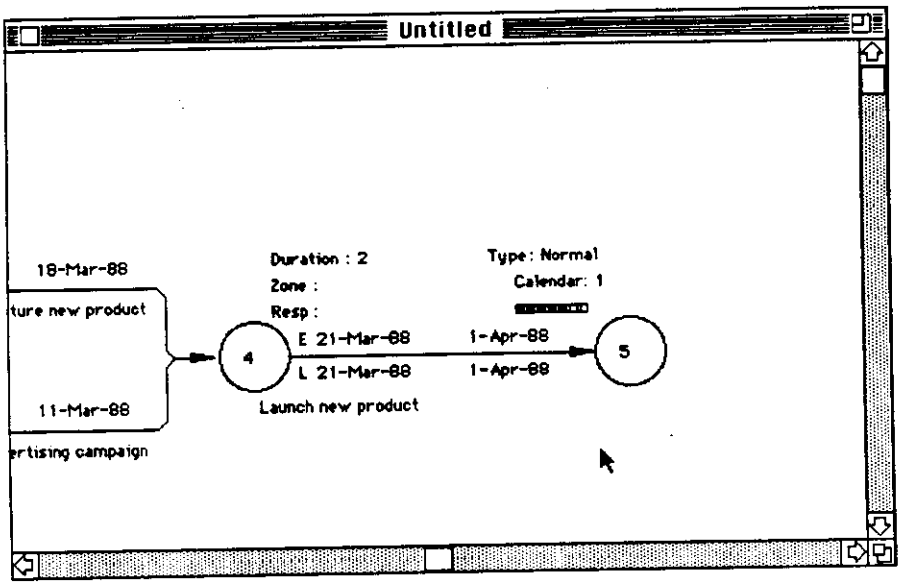
Updating Network...

Micro Planner returns to your previous position in the model.

Full Details

■ **Click on the activity 'Launch new product' to centralize it.**

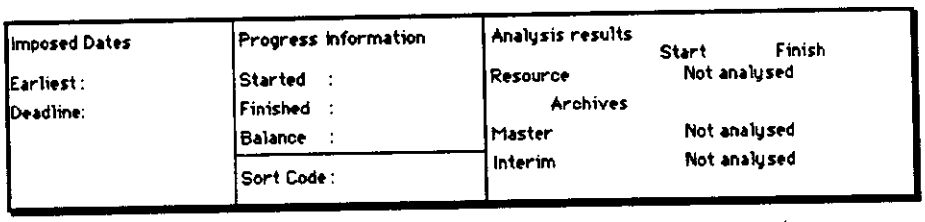
■ **Choose Full Details from the View menu.**



Notice that the earliest start and finish dates for activity 4→5 are shown above the arrow and the latest dates are displayed beneath it. Other activities only show earliest dates.

'Full Details' also reveals more information about each activity:

■ **Double click on activity 4→5 to open it.**



An additional panel appears which allows you to record further information about this activity - for example, its actual progress once the project is up and running.

■ **Click the Cancel button to close the activity.**

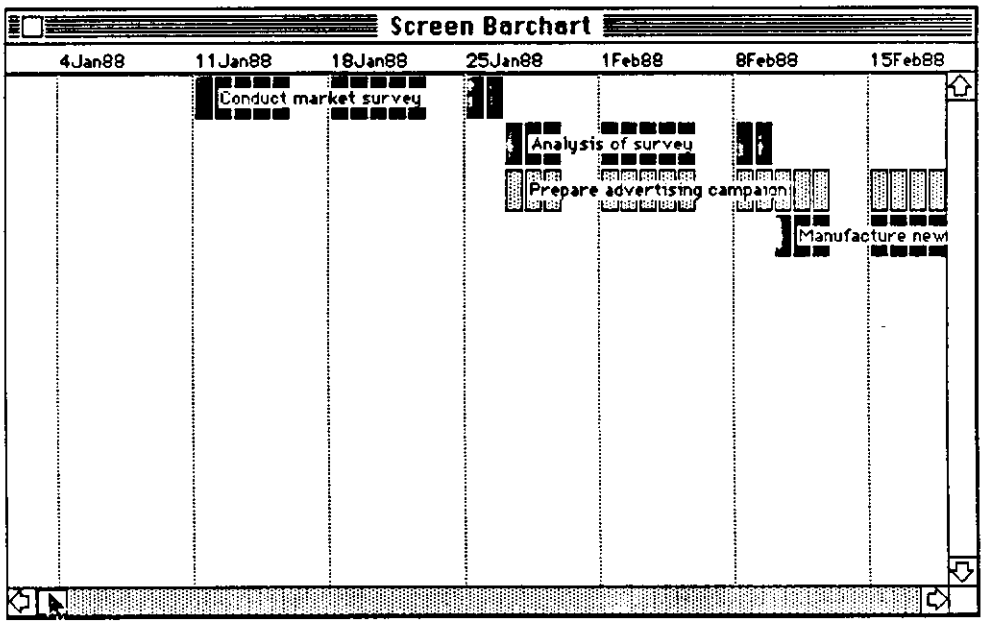
■ **Choose Full Details again from the View menu.**

This removes the dates from the network model and also causes activities to revert to their simple form when opened.

Screen Barchart

Looking at dates on the network is not, perhaps, the easiest way to interpret the Time Analysis results. To get a clearer view of the schedule, generate a screen barchart like this:

- **Choose Barchart from the View menu.**
- **Click the OK button for the Time Analysis schedule.**
- **Click the Yes button to start viewing from 'Time Now'.**
- **Click OK for the preset Activity Selection.**



The Time Analysis schedule appears in barchart form - the bars represent the expected activity duration.

Use the arrows or thumb in the lower scroll bar to move to the right of the screen and then back again.

The four activities with black bars (or red bars if you have a color system) are called '**critical**' - these activities *must* start and finish on time if the project is to meet its deadline.

Notice that the advertising campaign can be deferred by one week before it delays the launch of the product. Activities like this which have spare time or 'float' are shown shaded.
The float itself is shown after the activity as narrower outlined bars.

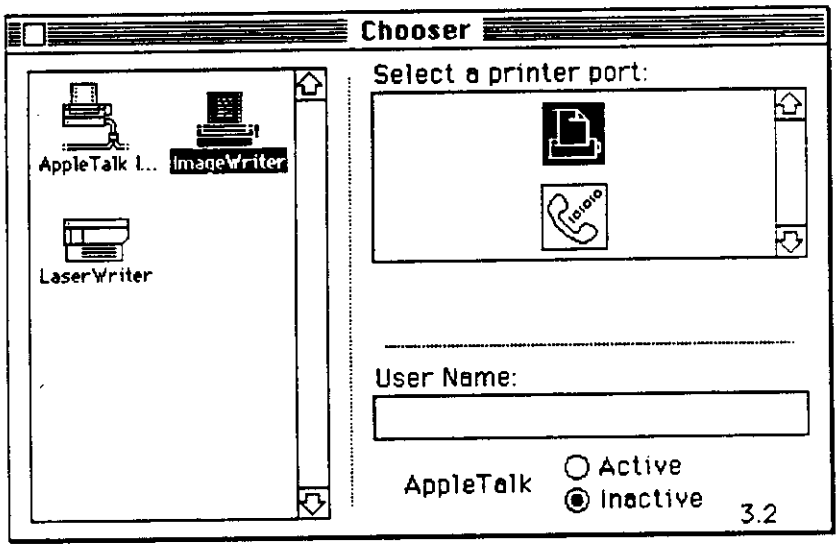
Printing a Screen Barchart

Before returning to the network model, you can produce a permanent record of the screen barchart.

You are going to use the printer so ensure that it is connected and powered up. If you have an Imagewriter II or LQ 1500, you can insert a color ribbon.

■ **Select Chooser from the 'Apple' menu (located on the extreme left of the menu bar).**

Ensure that you have selected the correct printer device and, if appropriate, printer port - for example:

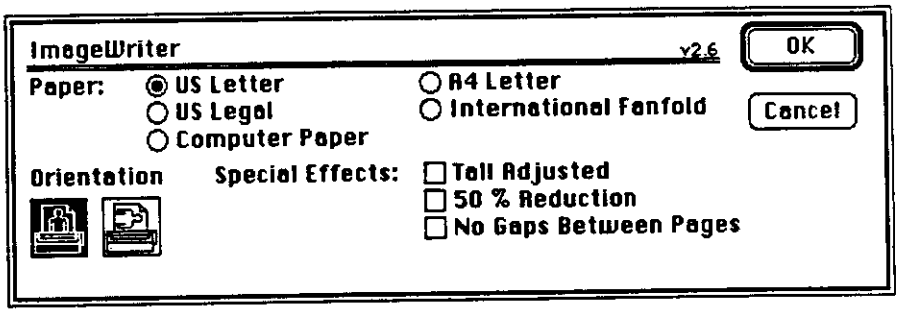


■ **Click the 'close' box in the top left corner of the window.**

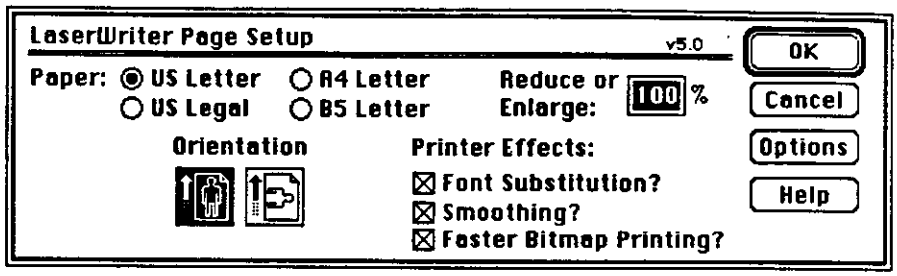
Next, select the Page setup options:

■ **Choose Page Setup from the File menu.**

If you are using an Imagewriter printer the following screen appears:



Or, for a Laserwriter:



For a 10" Imagewriter:

- Click US Letter.
- Click the right hand Orientation icon to print down the page (sideways).
- Click the No Gaps Between Pages box so that a cross appears.
- Click the 50 percent Reduction box if appropriate.
- Click OK.

For a 15" Imagewriter or Imagewriter LQ:

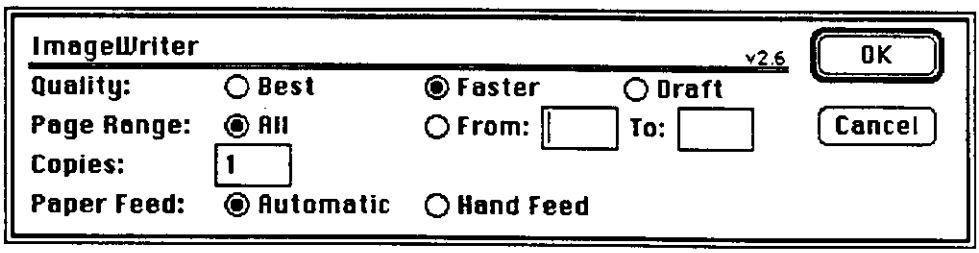
- Click Computer Paper.
- Click the left hand Orientation icon to print across the page.
- Click the No Gaps Between Pages box so that a cross appears.
- Click the 50 percent Reduction box if appropriate.
- Click OK.

For a Laserwriter:

- Click US Letter or A4 as appropriate.
- Click the right hand Orientation icon to print down the page (sideways).
- To save paper, double click in the Reduce or Enlarge box if it is not already highlighted...
- ... then type, say, 50 percent reduction.
- Click OK.

Finally, to print the barchart:

- Choose Print from the File menu and, depending on the type of printer you are using...



- ...select the appropriate print settings then click OK.

When the screen barchart has finished printing, return to the network model like this:

Either,

■ **Click the 'close' box in the top left corner of the screen barchart.**

Or,

■ **Choose Network from the View menu.**

You may need to cut and paste the printed sheets together.

When planning a real project, your first Time Analysis usually produces a schedule that is too long. With Micro Planner you can reshape the model (modify the logic, amend durations, even overlap activities) and re-analyze it until a realistic but competitive completion date is reached.

First Resources

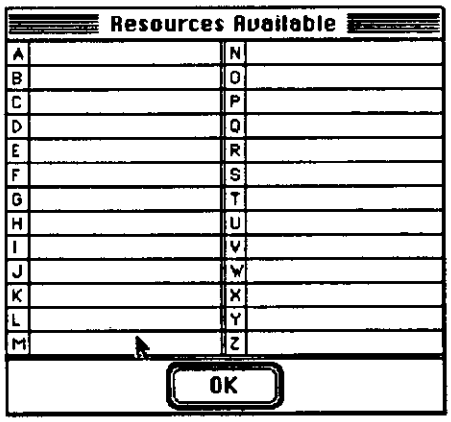
So far we have examined the project from the single viewpoint of time and, in doing so, assumed that there are *infinite* people, equipment, materials and money to perform these operations...

... now for the real world!

Let's suppose that 'Conduct market survey', 'Analysis of survey' and the 'Advertising campaign' are carried out by the same four people - the Marketing Team perhaps.

■ **Choose Resources Available from the View menu.**

■ **Click inside one of the cells - say 'M' to open a new resource record.**



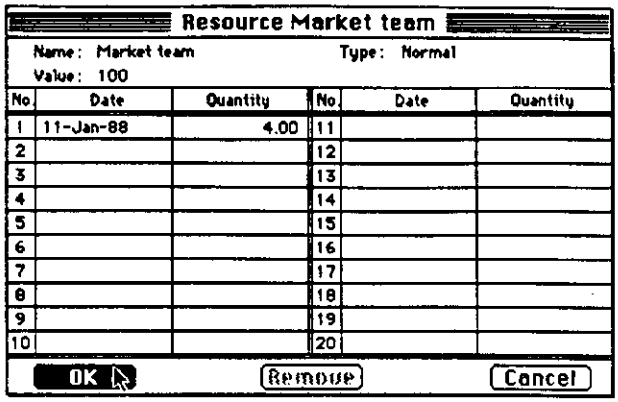
A resource window appears.

■ **Opposite Name:, type 'Market team'.**

■ **Click inside the first Date cell.**

Micro Planner invents next Monday's date ('Time Now').

■ **Click inside the first Quantity cell.**



■ **Double click to select the invented quantity (of '1') then type 4.**

This means that you have set up a resource category 'Market Team' and have told Micro Planner that there are four of them available from Time Now.

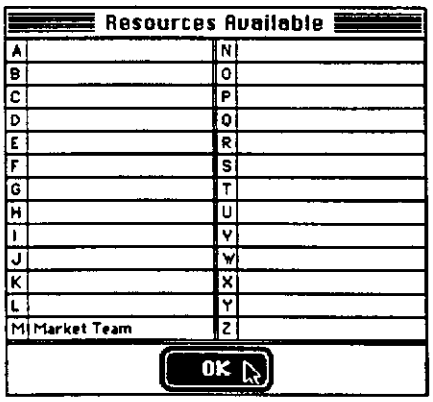
'Value' is the cost of one unit of this resource and is preset to 1. The cost of one of our market team could be, for example, 100 per day.

■ **Double click to the right of Value: and type 100.**

This specifies that each member of our marketing team is costing 100 (dollars, pounds or whatever currency you choose) per day.

■ **Click OK.**

You now return to the Available Resources window ready to insert another resource record if required.



■ **Click the OK button to return to the network.**

Resources Used

The next step is to assign the marketing team to their appropriate activities.

■ **Move to activity 1→2.**

■ **Click on this activity to centralize it and double click on it to open it.**

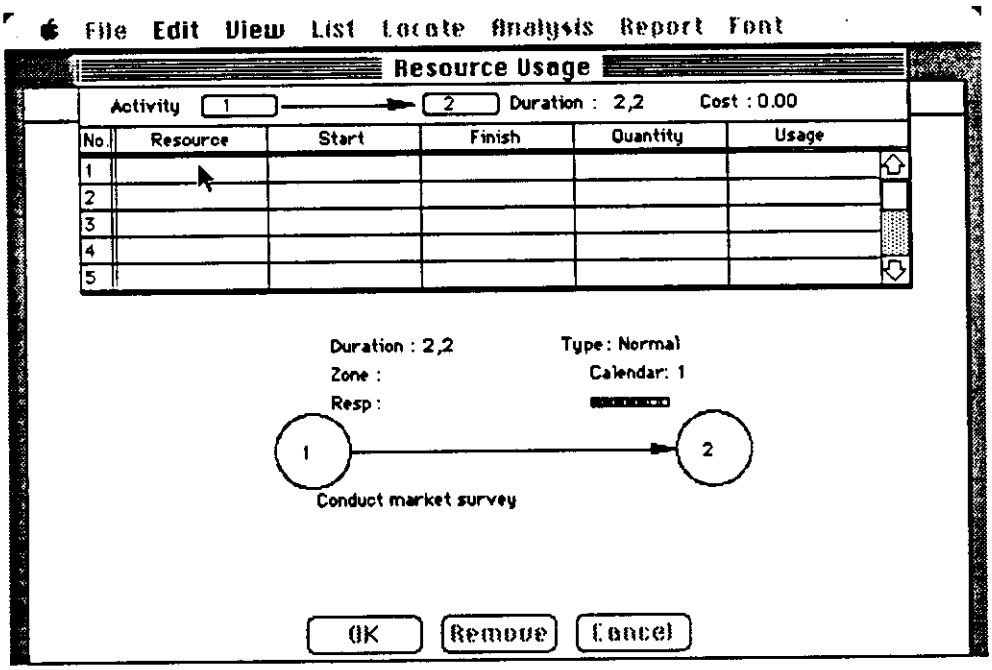
You will notice the top edge of another window headed 'Resource Usage' peeping out from under the current window.

Either,

■ **Click the edge of the Resource Usage window.**

Or,

■ **Choose Resources Used from the View menu.**



■ **Click inside the first Resource cell.**

The Available Resources window appears for you to use as a menu.

■ **Click the Market Team cell.**

Micro Planner assumes that one member of the marketing team will be assigned from the beginning (**Start 0**) through to the end (**Finish 2,2**) of this activity.

You want to assign all four marketing team members for the whole of this activity, therefore, you need only change the 'Quantity' column.

■ **Double click inside the first Quantity cell.**

■ **Type 4 followed by the Return key.**

Notice that the cost of the resources for this activity is shown in the top right of the window. Cost: 4800.00

> **Note:** The last column 'Usage' is only required if you wish to change the meaning of the quantity from 'Per Day' to 'Total'.
>
> For example, the quantity for this particular activity can be specified in one of two ways...
>
> Either, as 4 people for each day of its 12 day duration.
>
> Or, as a total workload of 48 man-days for the entire duration.

The Resource Usage window should now look like this:

Resource Usage

Activity 1 → 2 Duration : 2,2 Cost : 4800.00

No.	Resource	Start	Finish	Quantity	Usage
1	Market Team	0	2,2	4.00	Per Day
2					
3					
4					
5					

■ **Click anywhere in the Change Activity window to hide the Resource Usage window.**

■ **Click OK.**

Similarly,

■ **Centralize and open the 'Analysis of survey' activity in the usual way.**

■ **Add 4 of the Market Team resource to this activity.**

One of Micro Planner's special features is that you may assign different resource usage to portions of an activity:

■ **Add 4 of the Market Team resource to the activity 'Prepare advertising campaign' then...**

■ **...double click inside the Finish cell and type 4.**

This means that all four members of the marketing team are assigned to the first four weeks of the advertising campaign.

Only three of them are needed for the remaining portion of this activity so:

■ **Click inside the second Resource cell.**

■ **Choose Market team from the Resources Available window.**

■ **Change the Quantity cell to 3.**

■ **Change the Start cell to 4.**

Resource Usage

Activity 2 → 4 Duration : 6,3 Cost : 11900.00

No.	Resource	Start	Finish	Quantity	Usage
1	Market Team	0	4	4.00	Per Day
2	Market Team	4	6,3	3.00	Per Day
3					
4					
5					

■ **Hide the Resource Usage window**

■ **Click OK.**

Resource Analysis

Time Analysis told you how early each operation *could* start and how early it *could* finish. However, these dates can only be theoretical because they assume unlimited resources.

For this schedule to be realistic, it must be examined in the light of the resources available.

This is where Resource Analysis comes into the picture.

It is a complex process but let's briefly consider its two main features...

1) Resource Levelling

This process figures out when each operation *should* start and finish while making best use of the available resources.

To smooth resource requirements, Micro Planner uses spare time to alleviate any conflicting demands. It does this by delaying non-critical activities within their float period so that the resources are made available to more urgent operations.

However, if there are insufficient resources available to schedule all the activities according to the theoretical Time Analysis deadlines then a decision is required.

Do you overload the resources so that the project finishes in the minimum time or stretch the schedule to accommodate these resource constraints?

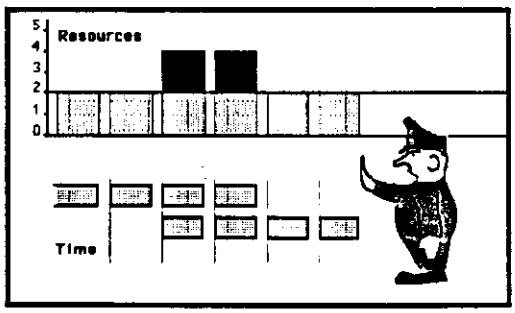
To find the answer, you need to examine the schedule from both angles...

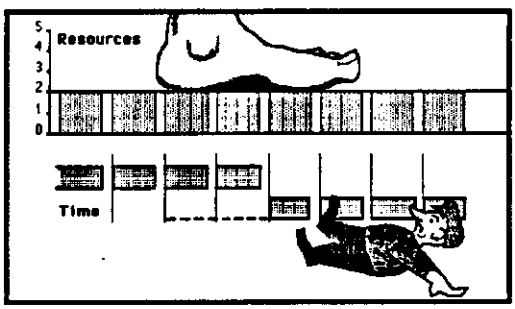
2) Time and Resource Trade-off

Micro Planner offers two types of Resource Analysis.

Time Critical Resource Analysis identifies what additional resources you need to finish the project as quickly as possible.

If you choose this analysis, you mean *make the project finish by the Time Analysis deadline date, overloading the resources if necessary.*





Resource Critical Resource Analysis shows you when the project can be expected to finish given the resources available.

If you choose this analysis, you mean *do not overload the available resources and delay activities until those resources become available.*

Time Critical Resource Analysis

First, do an analysis to check whether your resources are sufficient to finish the project on time.

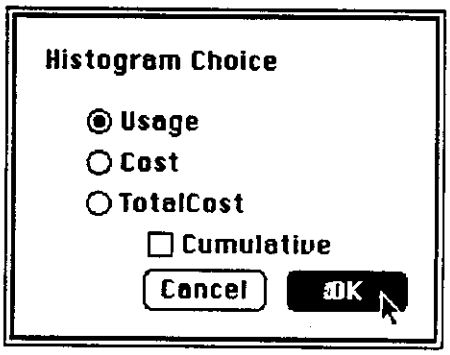
■ **Choose Resource Analysis... ...Time critical from the Analysis menu.**

To do this: Click the Analysis menu and drag downwards past the Resource Analysis... line to ...Time Critical and release.

Progress information is displayed once more to show what is going on then Micro Planner returns to the network model.

Screen Histogram

To view the analysis results, generate a screen histogram like this:



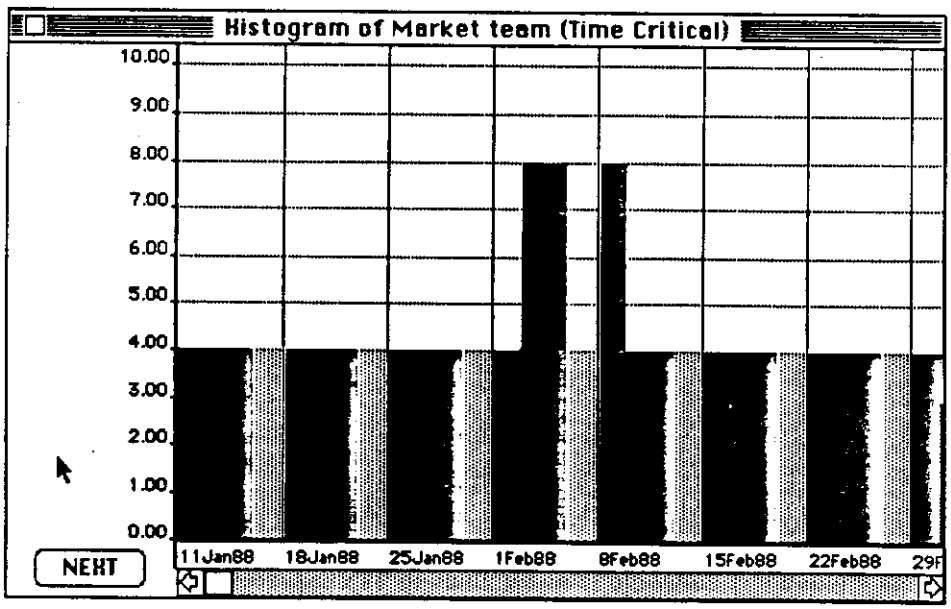
■ **Choose Histogram from the View menu.**

The usage button is already selected.

■ **Click OK to accept usage.**

■ **Select Market Team from the Resources Available window.**

The screen histogram appears showing the daily resource requirements versus resource availability.



It also shows that, to avoid delaying the project, the market team has been overloaded - there are five days when you need 8 people but only 4 are available.

Unless this overload is resolved, you will not have enough people to meet the target deadline.

Resource Analysis Barchart

Now take a look at a Resource Analysis barchart to see *where* the overload has occurred.

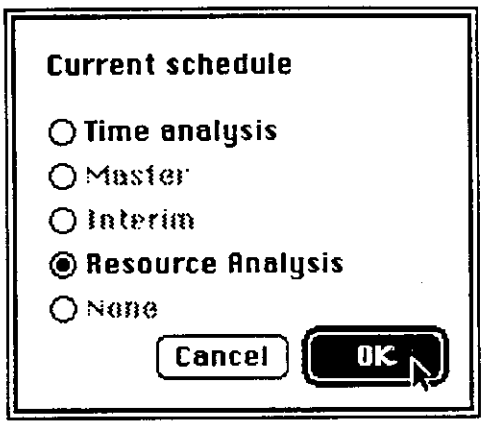
■ **Choose Barchart from the Report menu.**

■ **Click the Resource Analysis button to select that schedule.**

■ **Click the OK button.**

■ **Click the Yes button to start printing from 'Time Now'.**

■ **Click the Yes button to request float.**



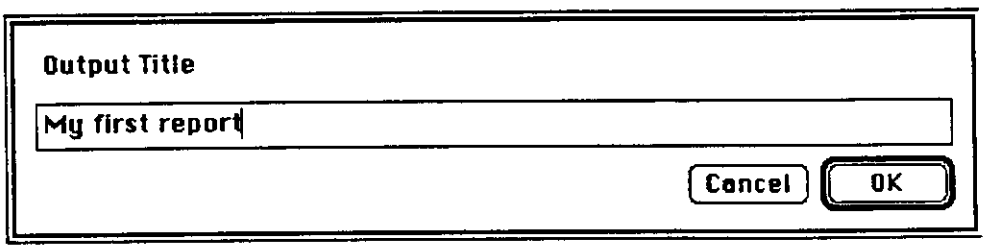
Requesting float shows us how Resource Analysis has used the spare time to try to resolve any conflicting resource demands.

■ **Click the Yes button to show resources on the report.**

■ **Click OK for the preset Activity Selection and sorting.**

The following box then appears for you to type your own title for the barchart.

A suggested title appears highlighted white on black:

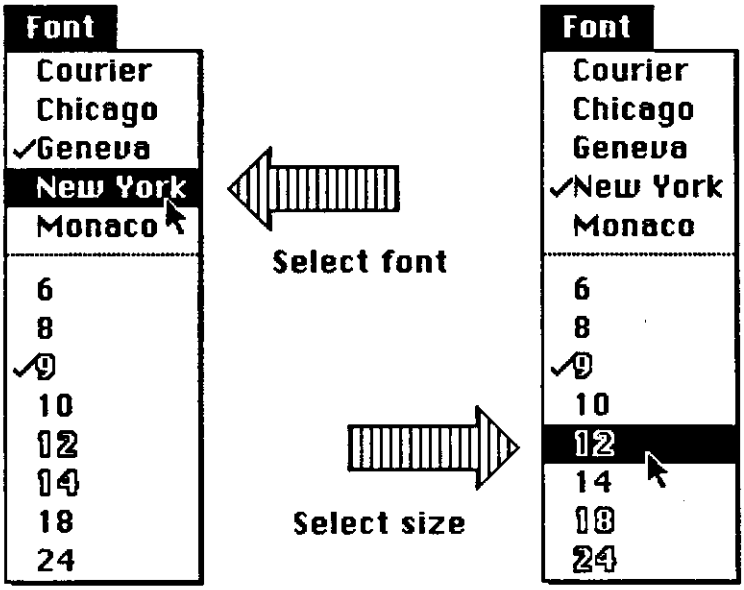


■ **Type 'My first report' and click OK.**

After a moment the report appears on the screen as it would be printed.

Now, there are three ways to customize this report...

1. Fonts and sizes



■ **Pull down the Font menu and choose the desired font.**

■ **Using the same menu, choose the appropriate size of font.**

You will notice that, for each font there are one or two sizes which are presented in fatter type - those are the sizes at which those fonts will be correctly proportioned on the screen or when using an Imagewriter printer.

> **Note:** Mono spaced fonts like Monaco and Courier give you more compact results and better tabulation but proportionally spaced fonts can look more attractive.

2. Page set-up controls

■ **Choose Page Setup from the File menu.**

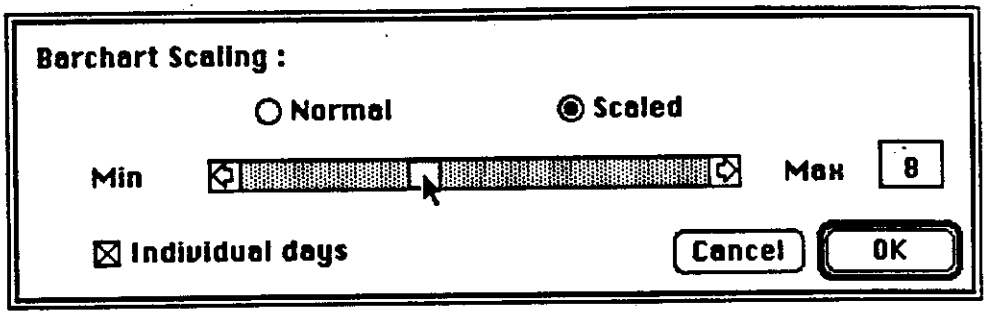
■ **Select paper size, orientation and optional extras as before.**

■ **Click OK.**

3. Barchart scaling

■ **Choose Barchart Scaling from the Report menu.**

■ **Click the Scaled button.**



■ **Move the thumb to the middle of the scroll bar.**

To do this: Position the mouse pointer on the box in the scroll bar. Press and hold the mouse button while dragging the box to the centre of the scroll bar then release the mouse button.

Note: The number in the 'Max' box acts as a guide for you to select the same scaling factor for future barcharts.

■ **Click the Individual Days box so that the cross disappears.**

■ **Click the OK button.**

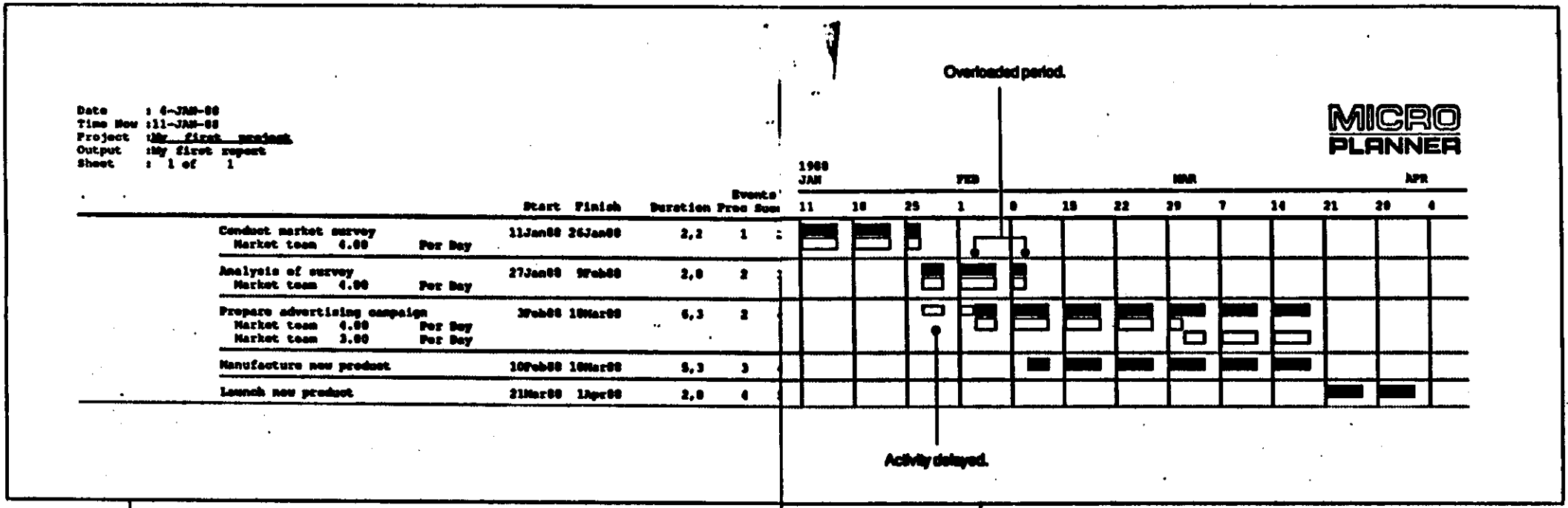
As you move around the barchart using the scrolling controls, notice that dotted lines appear to show you where the breaks or folds will come in your paper. Experiment with the Fonts and sizes, Page Setup controls and barchart scaling until you arrive at a solution to suit your needs.

Ensure that the printer is still powered up and selected. If appropriate, insert a color ribbon.

■ **Choose Print from the File menu, prepare the settings as before and click OK.**

When the barchart is printed, return to the network model:

■ **Click the barchart 'close' box.**


Overloaded period.
MICRO PLANNER
Date : 4-JAN-88
Time Now :11-JAN-88
Project :My first project
Output :My first report
Sheet : 1 of 1
1988
JAN
FEB
MAR
APR
Start Finish Duration Events Pred Succ
11 18 25 1 8 15 22 29 7 14 21 28 4
Conduct market survey 11Jan88 26Jan88 2,2 1 :
Market team 4.00 Per Day
Analysis of survey 27Jan88 9Feb88 2,0 2
Market team 4.00 Per Day
Prepare advertising campaign 3Feb88 16Mar88 6,3 2
Market team 4.00 Per Day
Market team 3.00 Per Day
Manufacture new product 10Feb88 16Mar88 5,3 3
Launch new product 21Mar88 1Apr88 2,0 4
Activity delayed.

On this barchart, notice that:

- The bars represent weeks, not individual days, because you de-selected the Individual days box during barchart scaling.
- As requested, the Resources Used appear on this report - these are printed beneath the activity descriptions and a further bar appears under the usual bar to indicate where this particular resource is being used.
- Although the project finishes on time, *all* five activities are now critical.

This is because the activities 'Analysis of Survey' and 'Prepare advertising campaign' are competing for the same four members of the marketing team.

To try and get round this, Micro Planner has used the period of float to delay the advertising campaign to its latest finish but it does not have the latitude to completely resolve the conflict. Hence the overloaded period indicated on the screen histogram.

Resource Critical Resource Analysis

Now, let's see what happens to the target deadline if you do *not* overload the available resources:

■ Choose Resource Analysis... ...Resource Critical from the Analysis menu.

A message appears asking for the action to be taken where an overload is unavoidable. This type of situation can arise if the model includes special types of activities which are under restriction not to split during Resource Analysis. This does not apply to your project so...

■ Click OK.

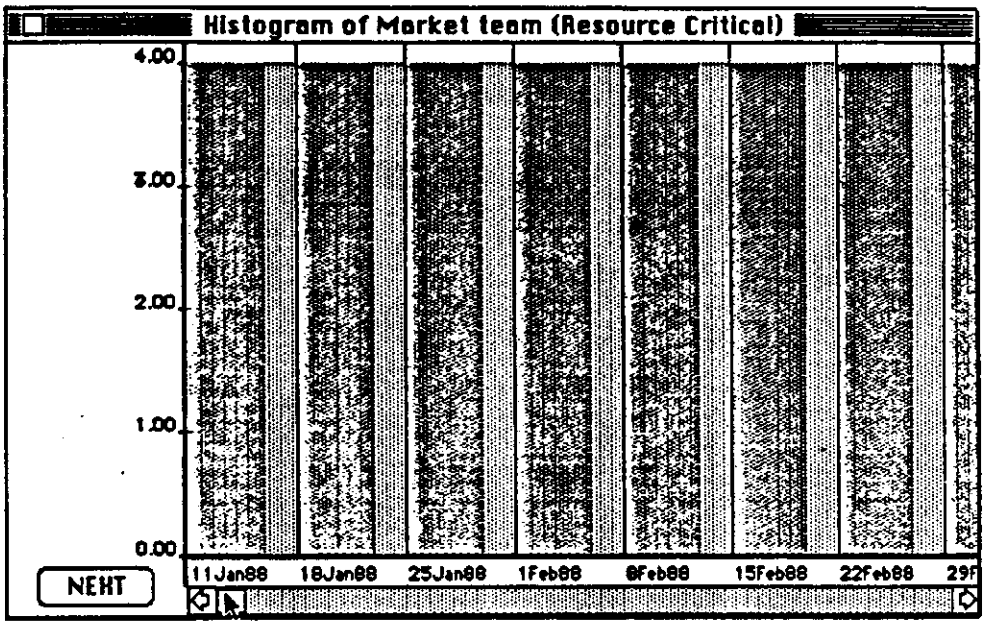
The analysis is carried out then Micro Planner returns to the network.

Generate a screen histogram as before:

■ Choose Histogram from the View menu.

■ Click OK to accept usage.

■ Select Market Team from the Resources Available window.



Use the horizontal scroll bar to view the rest of the histogram.

Notice that, although the available resources are not exceeded, the histogram runs into an extra week indicating that your project no longer meets the target deadline.

Multiple Calendars

The two analyses provide you with alternative solutions for overcoming this particular resource constraint.

Either, to finish the project as quickly as possible, you can employ 4 extra people for the 5 day period identified by Time Critical Resource Analysis.

Or, using the Resource Critical Resource Analysis results, you can stretch the project by 5 days so that the existing marketing team members have time to complete all the activities assigned to them.

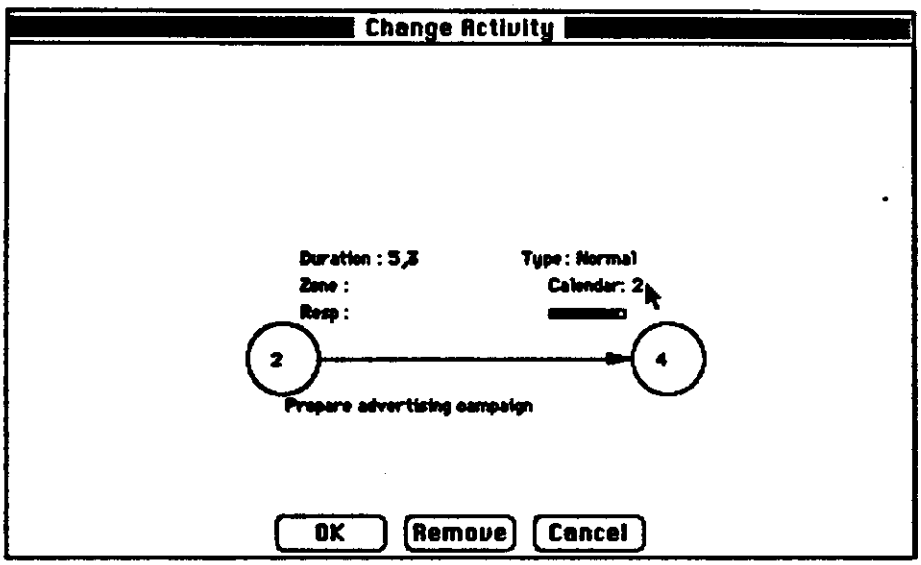
There is, however, a third but less obvious solution.

By using the multiple calendars which Micro Planner has to offer, you create more time *within* the existing schedule by changing one (or both) of the overloaded activities onto a weekly calendar which has more working days...

■ **Click the 'close' box to return to the network model.**

■ **Click on the activity 'Prepare advertising campaign' to centralize it and then double click to open it.**

■ **Move the pointer onto the calendar number just to the right of the title Calendar: and click.**



The calendar advances to Calendar 2 which is a six day week.

The duration is automatically recalculated to maintain the total of 33 working days assigned to this operation. This means that a duration of 6,3 on the original five day week changes to a duration of 5,3 on the new six day week - think about it!

> Note: Micro Planner also recalculates the 'Start' and 'Finish' durations for any resources assigned to this activity.

■ **Click OK.**

■ **Choose Resource Analysis... ...Time Critical from the Analysis menu.**

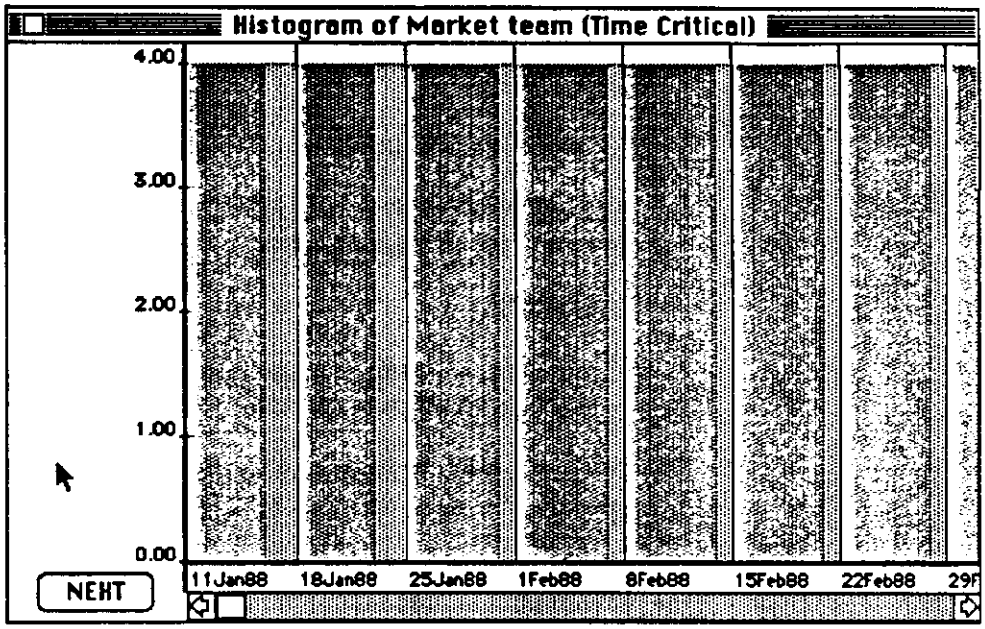
Once the schedule has been re-analyzed, produce a screen histogram:

■ **Choose Histogram from the View menu.**

■ **Click OK to accept usage.**

■ **Click Market Team from the Resources Available window.**

The histogram appears on the screen.



As you scroll horizontally to view the histogram, notice that the overload is resolved *and* the histogram finishes by the target date!

The extra working days on the new calendar means that the two activities are no longer competing for the same resources.

Let's save these Resource Analysis results:

■ **Click the histogram 'close' box to return to the model.**

■ **Click the Analysis menu and drag past Archive Resource Analysis... to ...Master Archive.**

Micro Planner allows you to archive two sets of schedules - these are called Master and Interim.

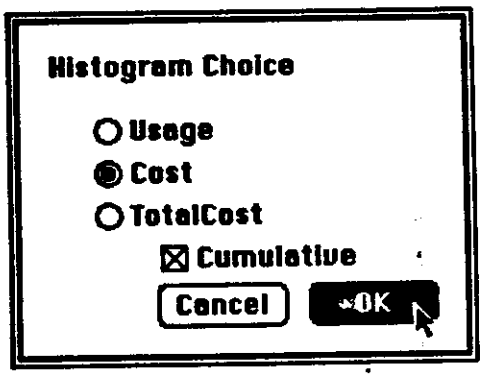
Once a schedule is archived, it is then available when you want to compare actual progress against the original forecasts.

Cost Histogram

Knowing the project costs may play an important part in your decision making. Costings may help you decide which schedule to use or how problems like overloads are best solved.

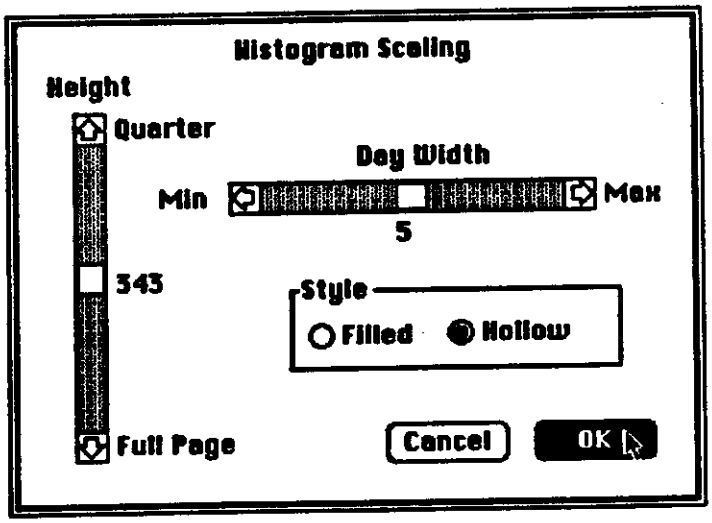
Suppose you want to produce a histogram report showing the cost of the marketing team - on a cumulative basis.

- Choose Histogram from the Report menu.
- Click the Cost button.
- Click the Cumulative check box so that a cross appears.
- Click OK.
- Select Market Team from the Resources Available window.



The histogram appears on the screen. As for a report barchart, it is possible to change the page settings and scaling but the fonts are fixed.

- Choose Page Setup from the File menu and select the appropriate options.
- Choose Histogram Scaling from the Report menu.



- Reduce the Day Width by moving the thumb towards the middle of the scroll bar.

■ **Reduce the Height by moving the thumb towards the middle of the scroll bar.**

■ **Click the Hollow button.**

■ **Click OK.**

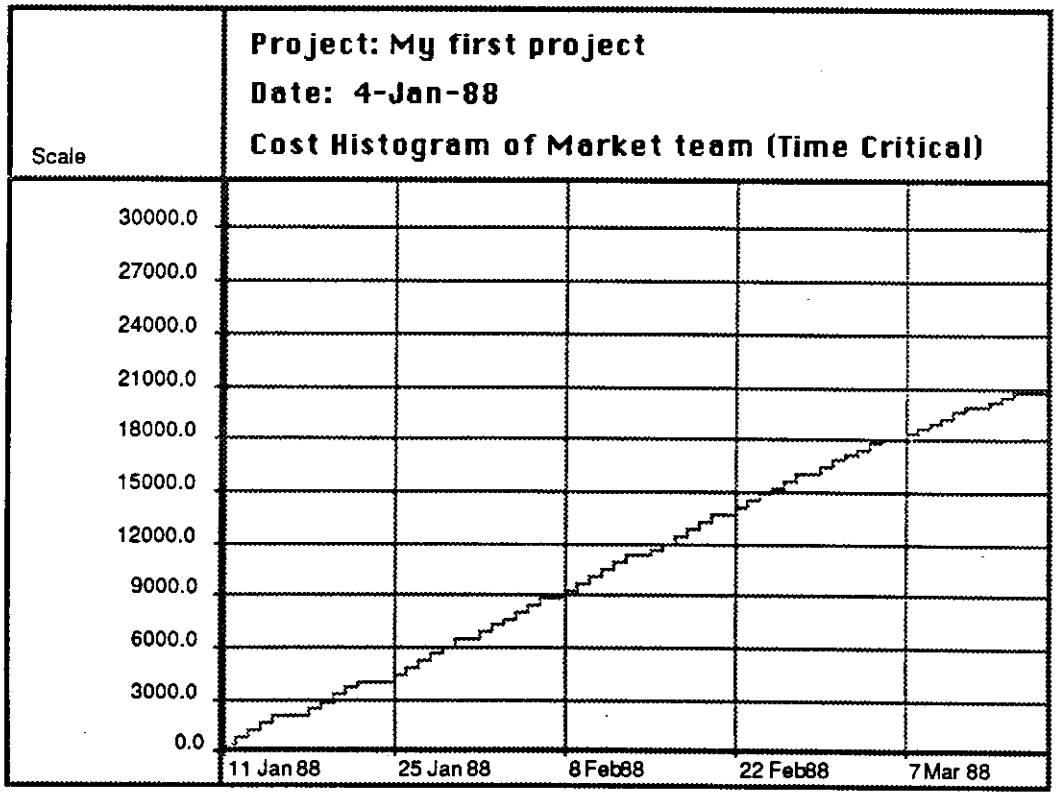
Check that your printer is still attached and powered up. Insert a color ribbon if appropriate.

■ **Choose Print from the File menu.**

■ **Select the appropriate print settings and click OK.**

■ **Click the 'close' box to return to the network model.**

> **Note:** 'Hollow' histograms economize on printer ribbon.



Report Labels

When producing reports, you can sort the activities into different groups. This is done by labelling each activity with an appropriate category.

In Micro Planner, there are actually two 'levels' of labels - the major ones are called **Zones** and, within these are subcategories called **Responsibilities**.

We have devised a simple breakdown of your project just to give you the idea.

You are going to label the market survey and survey analysis activities with a Zone '**Survey**' and the rest with a Zone called '**Production**'.

George is going to be responsible for the survey and analysis and he is also going to be responsible for the product launch. **Bruce** is in charge of manufacture and **Caroline** is going to handle the advertising.

■ **Click on activity 1→2 to select it and double click to open it.**

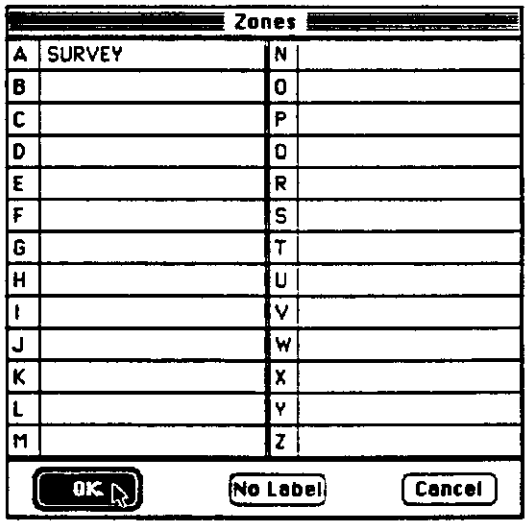
■ **Click just to the right of Zone:**

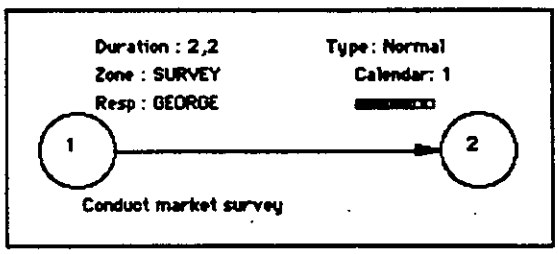
There are 26 cells which may be used for Zone labels and each cell is marked A...Z.

This alphabetic code is used for sorting the reports meaning that the Zones are printed in the same order as they appear in these cells.

■ **Click inside cell 'A' and type SURVEY.**

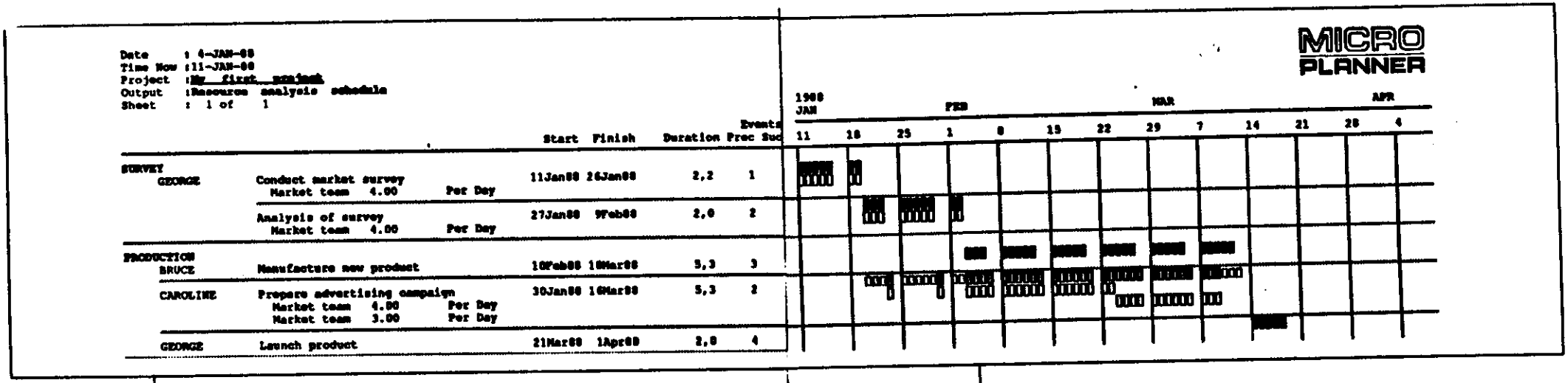
■ **Click OK.**





■ **Use a similar process to add the Responsibility label for GEORGE in cell 'G'.**

■ **Click OK to put away activity 1→2.**



Now let's do the same for activity 2→3:

- Select and open activity 2→3.
- Click Zone: and click the SURVEY cell to select it.
- Click OK.

You did not have to re-type the label.

- Do the same for responsibility GEORGE.
- Similarly, attach the Zone label PRODUCTION and the Responsibility label BRUCE to activity 3→4.
- Add the appropriate labels to the two remaining activities.

As you do this, remember that the labels will be sorted alphabetically - Zones as the major sort and Responsibilities sorted within them.

Print another Resource Analysis barchart:

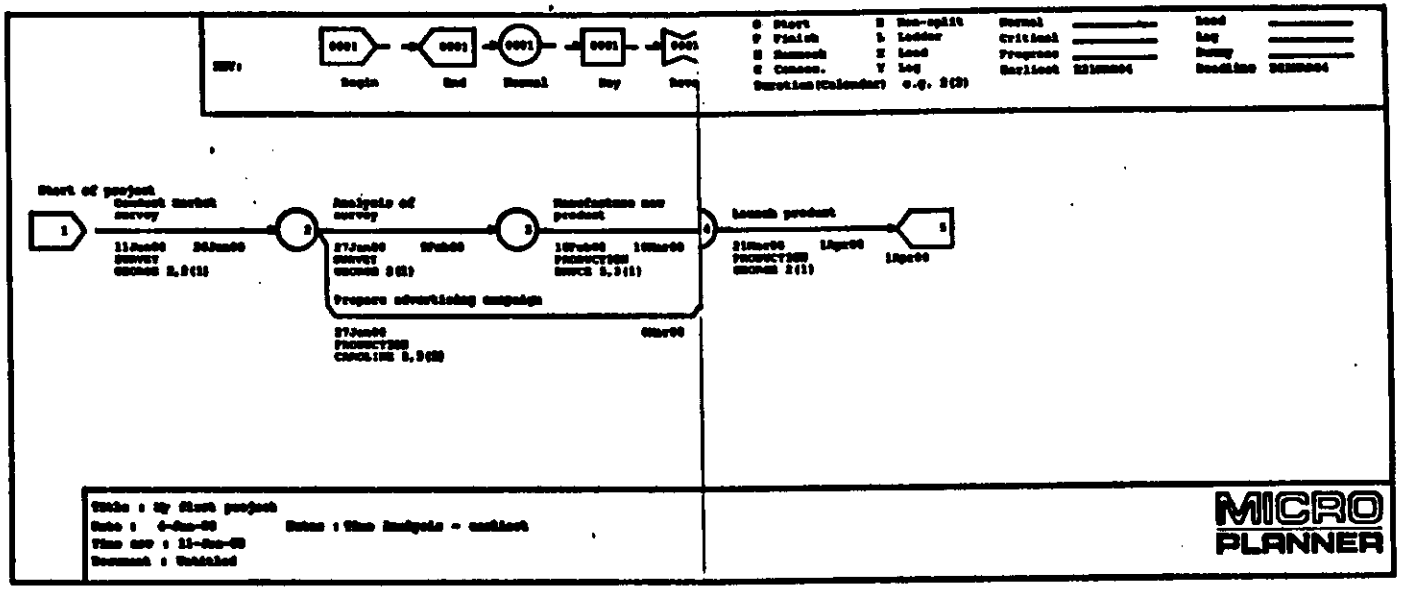
- Choose Barchart from the Report menu.
- Select the Resource Analysis schedule, printing from 'Time Now', float, resource usage and the preset activity selection.

> Note: You can change the preset activity selection to print only those activities with particular Zone or Responsibility labels. By doing this, you can tailor the reports to suit specific people or departments by including only that information which is relevant to them.
>
> Activities can also be selected on the basis of resources used.

- Type a special title if you require it.
- Select the Page Set options, Barchart Scaling and print settings as appropriate.

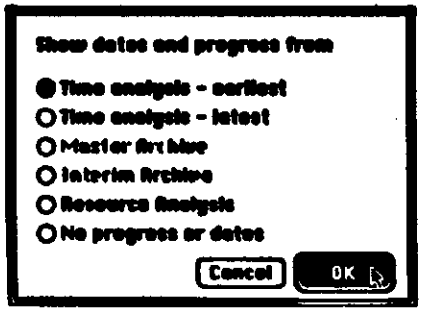
On this barchart, notice that the activities are divided into two major groups based on the Zone labels 'Survey' and 'Production' - and, within these are, the Responsibility labels for Bruce, Caroline and George.

- Click the barchart 'close' box to return to the network model.



Your First Plot

Having constructed your project on the screen of the *Macintosh*, you may wish to plot it on paper to see an overview.



■ Choose Network diagram from the Report menu.

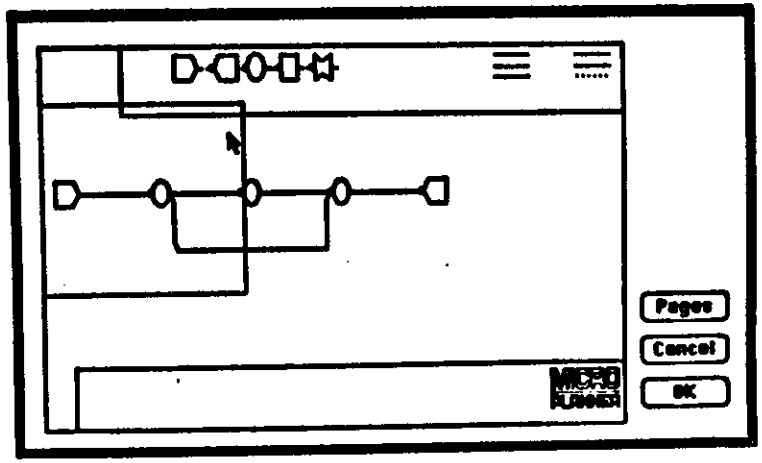
■ Click Time Analysis - Earliest to request Time Analysis dates to be displayed on the network plot.

■ Click OK.

The network is now plotted on the screen. Use the horizontal or vertical scrolling facilities to move around the network. The page breaks are shown as dotted lines, to give you an idea of how the finished network is paged.

You may want to see the shape of the whole network at one go.

■ Select Reduce to fit from the View menu.



The reduced diagram is now shown without text. A dotted rectangle appears which illustrates the position of the screen.

■ **Click inside the dotted rectangle and drag it to another position.**

Either,

■ **Click OK to move to the new screen position.**

Or,

■ **Click Cancel to stay where you were.**

■ **Experiment with the fonts and Page setup options as before.**

When you are ready to print your network...

■ **Choose Print from the File menu.**

■ **Set the print settings as before and click OK.**

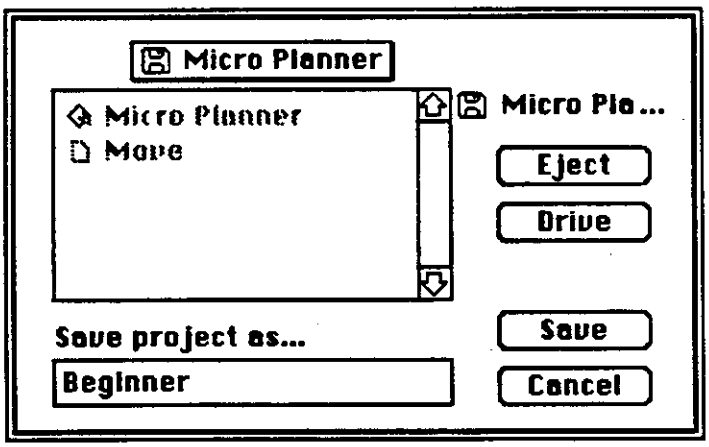
Your network is now printed.

■ **Click the 'close' box to return to the network model.**

Saving Your Project

Finally, save your project onto a disk.

■ **Choose Save As from the File menu.**



A box like this appears where you can enter the name with which your project is saved.

■ **Type a name for your project in the space provided.**

Above the Eject button is the name of the current disk.

Now, you may save your project in one of three ways...

1. On the current disk.

2. On a fresh disk.

3. On an existing disk.

Choose one of these options and turn to the relevant section.

1. Saving on the Current Disk

At the top of the dialog box is the name of the current directory together with a disk or folder icon.

If the directory name has a folder icon...

■ **Click the directory name.**

If there are any folders which are higher in the file hierarchy they appear on a pull down menu.

If you want to move to one of these folders:

■ **Drag and then release the mouse button to open the highlighted folder.**

In the list below the current folder name, all other folders inside the current folder (at a *lower* level in the hierarchy) appear as bold names.

■ **Double click the folder name if you want to open one of these lesser folders.**

> **Note:** If the named disk is initialized one-sided, the directory list does not include folder names and your project is saved at the top level of the folder hierarchy.

Once you have opened the required folder:

■ **Click the Save button and your project is put away.**

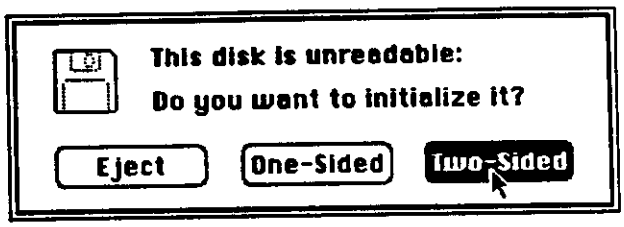
2. Saving on an Unused Disk

You may need to replace a disk like this:

■ **Click the Eject button to remove an unwanted disk.**

■ **Insert the new disk into the disk drive.**

If the disk is already initialized for a *Macintosh* its name appears above the Eject button. If it is not, this message appears:



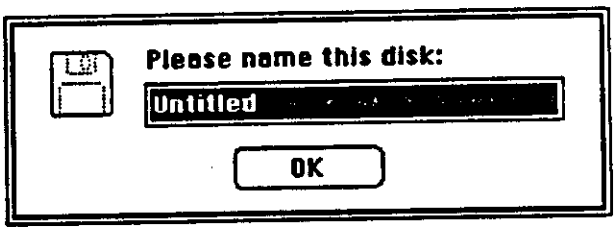
Initializing a disk removes everything making it into a blank *Macintosh* disk. So, if there is anything stored on the new disk that you do not want to lose then...

■ **Click the Eject button and find another disk.**

Otherwise,

■ **Click Two-sided or, if you are initializing a single-sided (400K) disk, click One-sided.**

The system asks for a name for the new disk:



■ **Type a suitable name in the space provided and click OK.**

When the name of the initialized disk appears above the Eject button you are ready to save the project.

■ **Click Save and your project is saved onto the new disk.**

If you have ejected the disk containing the project, then a series of messages appear asking you to alternately insert the disk you are copying from and the disk you are copying to.

3. Saving on an Existing Disk

You may need to replace a disk with a different one, to do this:

■ **Use the Drive button to display the name of the disk to be ejected.**

■ **Click the Eject button.**

■ **Insert the disk that is to receive the project.**

As explained in the section *Saving on the Current Disk*, unless the disk has been intialized one-sided, any folders on this disk are listed in the dialog box.

■ **Open the appropriate folder then click the Save button.**

A message appears if there is not enough room on this disk to store your project, in which case:

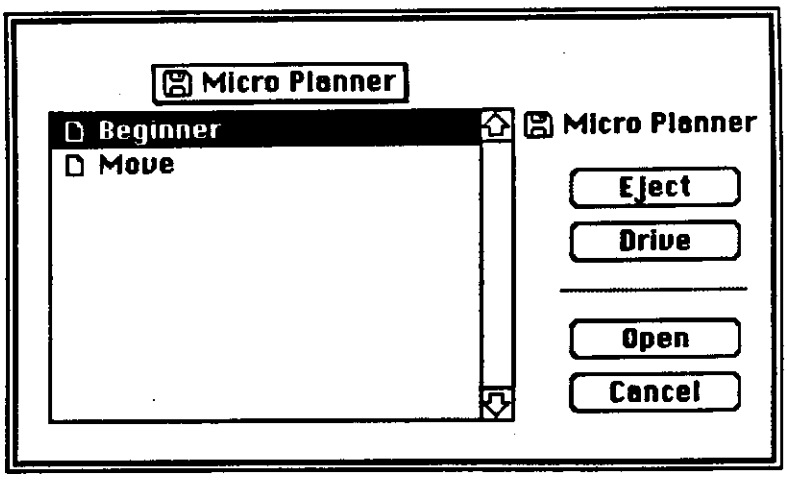
■ **Click the Eject button and find another disk.**

Open Another Project

Having saved your project you may want to work on another project and this is how you do it:

■ **Choose Close from the File menu to close the current project.**

■ **Choose Open from the File menu.**



■ Use the Drive or Eject buttons as explained above until you have the Micro Planner disk (or Sampler disk) named.

■ Click on the name 'Move'.

■ Click the Open button.

The program disk includes a sample project called 'Move' for you to experiment with.

Quit Micro Planner

The inevitable time will come when you have had enough of playing with Micro Planner. This is how you close down...

■ Choose Quit from the File menu.

Conclusion

There is more to learn about Micro Planner but we hope that, having gone through this little exercise, you have started to appreciate how you personally will be able to benefit from the features of the package.

We at Micro Planning International wish you the very best of luck and hope that you enjoy using **Micro Planner**.

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